1711

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Claude Couture, *et al.*
Serial No.	:	10/044,846
Filed	:	11/09/2001
Group Art Unit	:	1711
Examiner	:	Tran, Thao T.
Title	:	CROSSLINKED POLYSACCHARIDE, OBTAINED BY CROSSLINKING WITH SUBSTITUTED POLYETHYLENE GLYCOL, AS SUPERABSORBENT
Confirmation No.	:	7917
Last Office Action	:	June 13, 2005
Attorney Docket No.	:	CLWZ 2 00148

RESPONSE/REQUEST FOR RECONSIDERATION AND INTERVIEW SUMMARY

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sirs:

In response to the Advisory Action mailed on June 13, 2005, in connection with the above-identified patent application, and the Interview Summary of June 17, 2005, please consider the following remarks.

CERTIFICATE OF FIRST CLASS MAILING

I hereby certify that this paper and/or fee is being deposited with the United States Postal Service as First Class Mail service and is addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Cathryn Terchek

Date: June 21 2005

THE ADVISORY ACTION

In the Advisory Action, the Examiner has continued to reject claims 4-9 and 66-82 as being anticipated by Qin *et al.* (US Pat. 5,550,189) under 35 U.S.C. § 102(b). The Examiner was of the opinion that "the product of Qin would at least read [on] the presently claimed structure when, for example, taking n = 1".

INTERVIEW SUMMARY

In an interview conducted on June 17, 2005 among Examiner Tran, Applicants' representatives Tim Nauman, Joe Waters, and Erwin Shultz, and inventor Fred Picard, the Qin reference was discussed with respect to the present claims. It was pointed out that the reaction product of Qin would result in a crosslinked polysaccharide having ester linkage units whereas the present claims specifically recite ether linkages. Qin further teaches an alkylene glycol as a crosslinking agent. The use of such an agent would make it impossible to produce the structure as recited in claim 4, which utilizes a polyakylene glycol. The Examiner indicated that she would consider a request for reconsideration and urged the Applicants to submit one.

REMARKS

Claims 4-9 and 66-82 remain in the case.

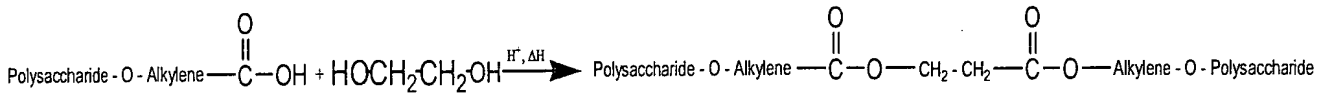
Reconsideration of this application is earnestly requested.

REJECTION UNDER 35 U.S.C. § 102

Claims 4-6 and 66-82 have been rejected as being anticipated by Qin *et al.* (US Pat. 5,550,189) under 35 U.S.C. § 102(b).

Applicants respectfully traverse the rejection as follows.

Qin *et al.* disclose a method for producing a water-swellable, generally water-insoluble modified polysaccharide (*i.e.* carboxyalkyl polysaccharide). The method comprises reacting a carboxyalkyl polysaccharide with a polyol cross-linking agent such as ethylene glycol and butylene glycol to provide cross-linked carboxyalkyl polysaccharides. Applicants respectfully submit that the use of such cross-linking agents inherently results in a polysaccharide which is cross-linked by a backbone chain of atoms comprising ester linkages. That is, the cross-linking reaction involves an esterification reaction according to the following reaction (using ethylene glycol):



More generally, the reaction product will have a backbone with the structure:

Polysaccharide-**O-X-COO-R-OOC-X-O**-Polysaccharide

wherein "R" is the alkylene portion of the polyol (*i.e.* ethylene or butylene) and wherein "X" is the alkylene portion of the carboxyalkyl moiety.

The present application, on the other hand, reacts the hydroxyl groups on the polysaccharide with a polyalkylene glycol to form a crosslinked polysaccharide having ether crosslinking units according to the following reaction:

The use of activated polyalkylene glycols to react with hydroxy groups on the polysaccharide results in a crosslinked backbone chain of atoms comprising repeating O-alkylene units, wherein the alkylene moieties are unsubstituted. The Applicants submit that cross-linked polysaccharides comprising a backbone chain of atoms including ether linkages having the structure:

Polysaccharide-**O-Alkylene-(O-Alkylene)$_n$-O**-Polysaccharide

wherein "n" is an integer ranging from 1 to 100. The use of alkylene glycols as crosslinking agents means that there is no possibility of having the bracketed [O – Alkylene] structure in Qin. Applicants therefore respectfully submit that the cross-linked polysaccharides as defined in the presently pending claims are not disclosed by Qin.

In addition, the Applicants would like to point out that the structure described by Qin, due to the ester groups, is inherently less stable than the presently

claimed structure due to the propensity of the ester groups to hydrolyze and degrade in the presence of water. The ether groups of the present claims do not suffer from this drawback. Accordingly, the Examiner is respectfully asked to vacate her rejection of the claims.

CONCLUSION

For the reasons detailed above, the rejections of the claims are believed to have been overcome.

It is respectfully submitted that all claims presently on record in the application (Claims 4-9, 66-82) are patentable over the art of record and are now in condition for allowance. Further a favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

Respectfully submitted,

FAY, SHARPE, FAGAN,
MINNICH & McKEE, LLP

Date: June 21, 2005

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